

LT-AFM/MFM

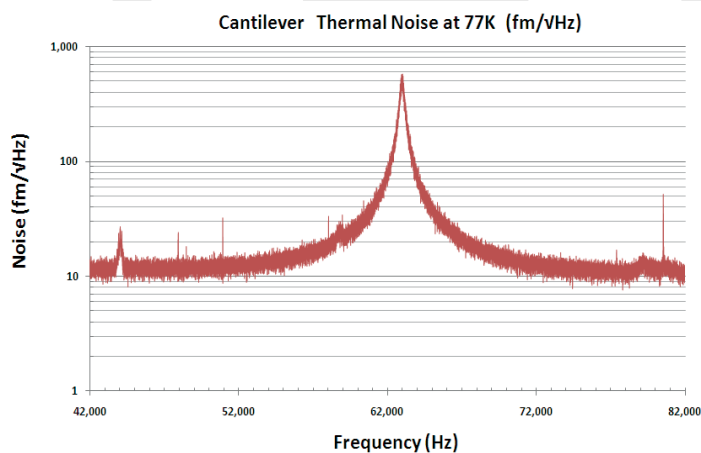
with high resolution fibre interferometer & alignment-free cantilevers

Cryogen Free MFM/AFM

- Rigid AFM design
- Magnetic Force Microscope
- Atomic Force Microscope
- Scanning Hall probe Microscope
- EFM, PFM, SSRM, STM, etc.

Cryogen Free Cryostat

- Vibration free design
- 100% dry system
- Closed-Cycle
- 1.5K - 400K
- Up to 20 Tesla
- Low operating costs



System Specifications

Imaging Modes: MFM, Conductive AFM, EFM, STM, Contact / Semi-Contact / Non-Contact mode AFM

Temperature **Ultra Large Area Scan Head** **Large Area Scan Head** **Standart Scan Head**

300K : 200x200x7.2 μm 150x150x7 μm 52x52x4.8 μm

77K : 50x50x4.8 μm 36x36x1.8 μm 14x14x1.2 μm

4.2K : 30x30x2.4 μm 18x18x0.8 μm 6x6x0.5 μm

Sample Approach: Stick-slip type; 10mm Z, $\varnothing 3$ mm XY range with 50 - 800nm

Fine Sample Positioning: Capacitive encoder with 2 μm resolution

Sample Size: 15x15x5mm maximum

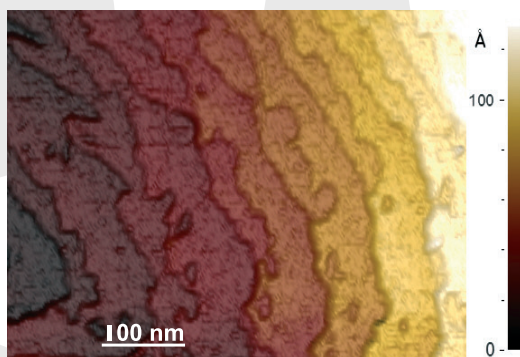
Sample Holder: 5 pins connections for experiments: One bias voltage, 4 spares

Temperature Range: 1K-300K (Limited by the system)

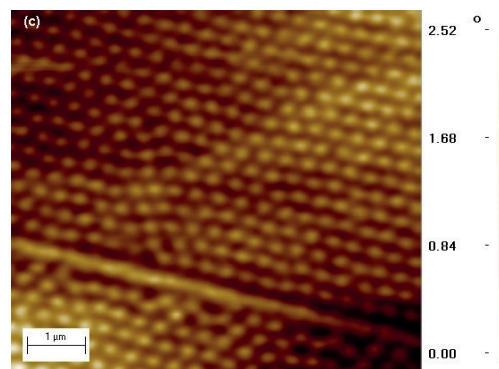
Magnetic Field: up to 20 T

Operation: Vacuum or exchange gas environment

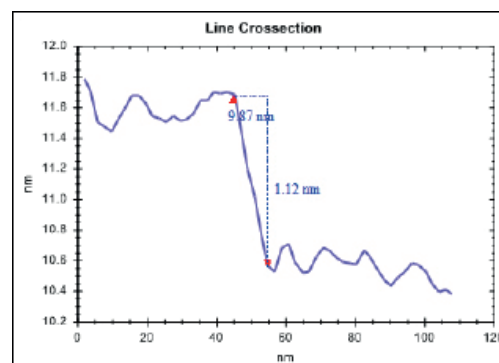
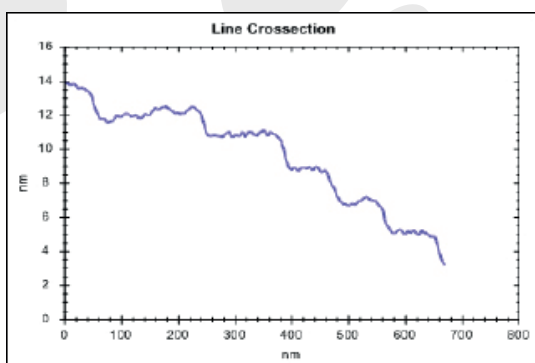
Compability: PPMS®. PPMS® Evercool can also be compatible with switched off compressor during experiments. Dilution Refrigerators and He3 systems. Can be customized to fit in to other mK systems or cryostat if free space permits.



LT-AFM Image of the etched mica surface

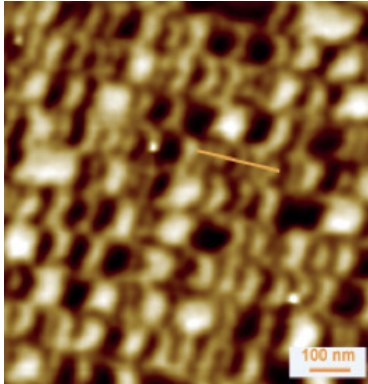


Vortex Imaging LT-MFM on BSCCO single crystal at 4.5 K

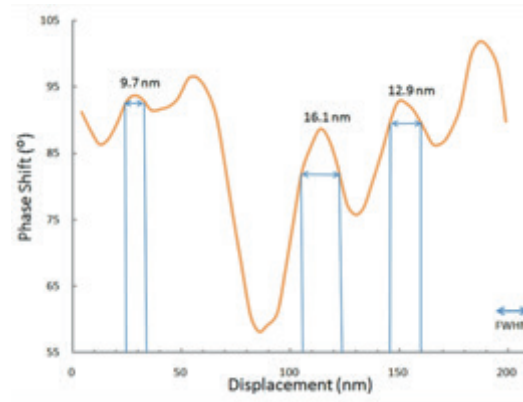


Cross-section of the double mica step

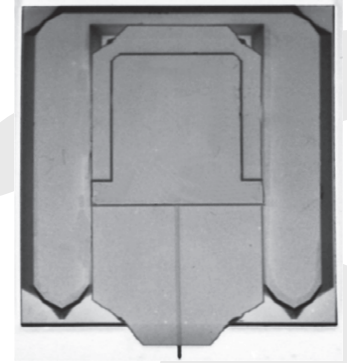




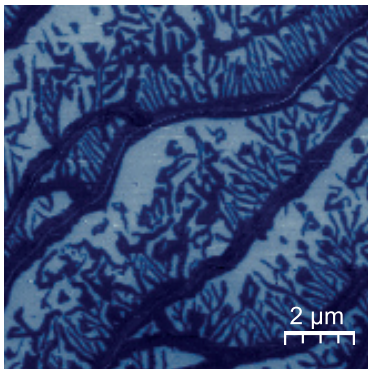
MFM image of HDD @ 77K, $k=8$ N/m



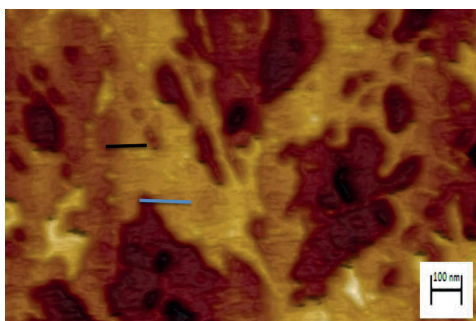
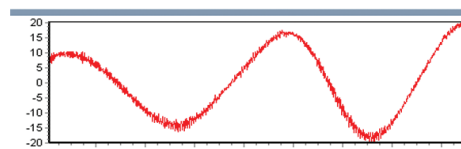
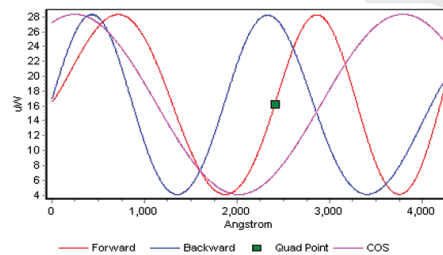
Cross section



Alignment free cantilevers from NanoSensors®



Work Function Image of CaFe_2As_2 at 300K



HF Etched Mica at 77K

